

METHOD AND STRUCTURE FOR MICROFLUIDIC FLOW GUIDING

ABSTRACT OF THE DISCLOSURE

A flow of liquids is carried out on a microscale utilizing surface effects to guide the liquid on flow paths to maintain laminar flow. No sidewall confining structure is required, minimizing resistance to flow and allowing laminar flow to be maintained at high flow rates. The guiding structure has flow guiding stripes formed on one or both of facing base and cover surfaces which are wettable by a selected liquid to direct the liquid from a source location to a destination location. The regions adjacent to the guiding stripes on the base and cover surfaces are non-wettable. The smooth interface between the gas and liquid along the flowing stream allows gas-liquid reactions to take place as a function of diffusion across the interface without mixing of the gas and liquid. Liquid-liquid flows may also be guided with such structures.

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